

REMARKS/ARGUMENTS

Reconsideration of this application in light of the above amendments and following comments is courteously solicited.

Claims 6, 7 and 9 were rejected under 35 U.S.C. §102(b) as being anticipated by Lim (US 6,628,974), and claims 1-5 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ohtsuka et al. (US 5,923,751) in view of Lim.

The invention as claimed in claim 1 is directed to an electrically opening and closing mechanism comprising: electrically driving means for electrically rotating a first member which is rotatably mounted on a second member; a first clutch for allowing said first and second members to frictionally contact each other while allowing said first member to be manually rotated when said first clutch is engaged; a second clutch for allowing said first member to be rotated by said electrically driving means when said second clutch is engaged; and an operating part for disengaging said first clutch and engaging said second clutch when said operating part is pushed.

In this electrically opening and closing mechanism, the first clutch is provided for allowing the first and second members to frictionally contact each other while allowing the first member to be manually rotated when the first clutch is engaged. Therefore, the first member can be stopped at an optional angular position by a frictional force when the first member is manually rotated. The second clutch is also provided for allowing the first member to be rotated by the electrically driving means when the second clutch is engaged. In addition, the operating part is provided for disengaging the first clutch and engaging the second clutch when the operating part is pushed. Therefore, when the operating part is pushed, the first

clutch is disengaged, and the second clutch is engaged for allowing the first member to be rotated by the electrically driving means, so that the first member can be open to an optional annular position by pushing the operating part. Then, the pushing of the operating part is stopped, the first member can be stopped at the optional annular position by the frictional force, since the first clutch is engaged for allowing the first and second members to frictionally contact each other when the operating part is not pushed.

In a preferred embodiment of an electrically opening and closing mechanism according to the present invention, the tip face 43 of the friction member 22 is associated with the side face 21 of the hole 44 of the first member 3 for forming the first clutch (K1) for connecting the first member 3 to the second member 4. The friction member 22 is biased so as to be pushed onto the side face 21 of the first member 3 by the spring force of the first spring 20. When the second member 4 is manually operated so as to be open, a frictional force acts on the contact portion of the tip face 43 of the friction member 22 with the side face 21 of the first member 3, so that the frictional force can stop the second member 4 at an optional angular position. In addition, the friction member 18 is associated with the friction member 22 for forming the second clutch (K2) for connecting the electrically driving means 2 to the second member 4. If the operating button 14 is pushed, the friction member 18 is pushed onto the friction member 22, so that the friction member 22 is pushed against the spring force of the first spring 20 to release the friction contact of the friction member 22 with the first member 3 (to disengage the first clutch K1). If the amount of movement of the operating button 14 reaches a predetermined amount, a switch is turned ON

to energize and rotate the motor 15, the rotation of which is reduced by the reducer 16 to be transmitted from the friction member 18 to the friction member 22, so that the second member 4 rotates with the friction member 22 (the second member 4 is open). Then, if the pushing force to the operating button 14 is released, the operating button 14, motor 15, reducer 16 and friction member 18 are integrated with each other to return to the original position by the spring force of the second spring 23 to disengage the second clutch K2 to cause the tip face 43 of the friction member 22 to contact the side face 21 of the first member 3 by the spring force of the first spring 20 (to engage the first clutch K1), so that the second member 4 is held at the angular position. If the operating button 14 returns toward the original position by a predetermined amount, the switch is turned OFF, so that the rotation of the motor 15 is stopped.

The invention as claimed in the amended claim 6 is directed to an electrically opening and closing mechanism comprising: electrically driving means for electrically rotating a first member which is rotatably mounted on a second member; and a friction clutch for allowing said first and second members to frictionally contact each other while allowing said first member to be manually rotated, said friction clutch being rotated by said electrically driving mean when said first member is rotated by said electrically driving means.

In this electrically opening and closing mechanism, the friction clutch is provided for allowing the first and second members to frictionally contact each other while allowing the first member to be manually rotated. Therefore, the first member can be stopped at an optional angular position by a frictional force when the first member is manually rotated. In addition, the friction clutch is rotated by the electrically

driving means when the first member is rotated by the electrically driving means. Therefore, the first member can be open to an optional angular position when the first member is electrically rotated by the electrically driving means, and the first member can be stopped at the optional angular position by stopping of the rotation of the first member using the electrically driving means.

Lim discloses a folder operating apparatus for a cellular phone which can stably open and close a folder by compensating for the phase difference caused by the instability and the load of the folder operating apparatus by controlling the position of the folder. However, Lim fails to disclose or suggest any operating part for disengaging a first clutch, which is provided for allowing first and second members to frictionally contact each other while allowing the first member to be manually rotated with respect to the second member, and for engaging a second clutch, which is provided for allowing the first member to be rotated with respect to the second member by electrically driving means, when the operating part is pushed.

Ohtsuka et al. disclose an opening and closing device for a portable telephone wherein a receiver section can be opened by one touch by depressing a push-button while holding the portable telephone with one hand and can be stopped freely at any angle from a predetermined opening angle and besides, also when the receiver section is in a closed condition, the closed condition of the receiver section can be kept stably. However, Ohtsuka et al. fail to disclose or suggest any electrically driving means for electrically rotating a first member which is rotatably mounted on a second member, and the above described operating part.

Accordingly, it is believed that the amended claims patentably distinguish the invention from the prior art.

An earnest and thorough attempt has been made by the undersigned to resolve the outstanding issues in this case and place same in condition for allowance. If the Examiner has any questions or feels that a telephone or personal interview would be helpful in resolving any outstanding issues which remain in this application after consideration of this amendment, the Examiner is courteously invited to telephone the undersigned and the same would be gratefully appreciated.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,
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I, Rachel Piscitelli, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:
"Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on September 21, 2005.

